



Representing the Self Through the Visualization of Personal Data

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ABSTRACT

The representation of identity in digital media does not necessarily have to be conceived on the basis of criteria that mimic physical reality. This article presents a model for representing individual identity, based on the recording of human experience in the form of personal data, as an alternative to the common forms of mimetic portraiture. As such, the authors developed the project *Data Self-Portrait* that aims to explore the creative possibilities associated with the concept of data portrait. It can be described as a means of representing and expressing identity through the application of data visualization techniques to the domain of portraiture, according to an exploratory design approach, based on visualizing the digital footprint. It thus seeks to develop design proposals for representing identity that respond to the growing dematerialization of human activities and explores the representational and expressive role of data visualization, according to a creative use of computational technologies.

KEYWORDS

Autoethnography, Data Portrait, Personal Data, Portrait, Self-Tracking, Technologies of the Self, Visualization

INTRODUCTION

All modes of action from the most spiritual to the most sensory, from the most mundane to the most poetic, all human activities now seem to share the same history and appear to be moving towards the same situation: the informational environment. (Renaud, 2002, p. 9)

Within this information environment, “numbers are infiltrating the last redoubts of the personal”, activities such as “sleep, exercise, sex, food, mood, location, alertness, productivity, even spiritual well-being” (Wolf, 2010) which can now be tracked by technological devices, capable of recording all kinds of data based on human experience (Lupton, 2020).

Drawing on these possibilities, the concept of data portrait (Xiong & Donath, 1999) emerges in the late 1990s as a means to graphically represent individuals in digital social environments and collaborative systems, based on data related to their interaction history (Dragulescu, 2009). These

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portraits can be defined as non-mimetic representations of people “made by visualizing data by and about them” (Donath, 2017, p. 187). Given that their purpose is to evoke and express the subject’s identity, these visual representation systems are described as portraits, in order to differentiate them from other visualization systems whose main objective is the statistical analysis of personal data. As such, data portraits can be seen as representations of subjectivity, but are also visualizations of a subjective nature regarding design choices they involve on what is to be represented, how it is represented, and to what end or expression. Their primary goal is then “to call into question the claims of transparency, certainty, and objectivity” of data visualization techniques, drawing attention to “the situatedness of the observer and the phenomenon being observed” (Hall, 2011).

The project *Data Self-Portrait* (Sampaio et al., 2019) therefore involves the design and implementation of a visualization system capable of producing a self-portrait that is generated from personal data related to the subject’s daily activities, according to an autoethnographic approach and as a reflection of one’s identity. This kind of self-portrait differs from traditional portraits since its visibility is not the result of a mimetic image record, but rather the product of the collection and representation of data resulting from personal experiences, therefore, functioning as a potential biographical repository.

The project explores different forms of visualizing the same dataset, as complementary expressions of the same self-portrait, which can be presented as an installation, comprising a dynamic visualization that can be interactively explored, a physical object and a printed publication. As the result of an ongoing investigation on data portraits, the project focuses on their ability to represent human experience, as it evolves in time, through one’s digital footprint. In this sense, it is also tied to a reconceptualization of portraiture in the current context of a data driven life (Wolf, 2010), or a daily life immersed in data.

FROM PORTRAITS TO DATA PORTRAITS

The portrait is an art form that aims to “index” identity using material objects (Borgatti, 2008). It symbolically represents the individual, not only through his physical characteristics, but also through fragments of his emotions, experiences, behaviors or even knowledge (West, 2004). To this end, portraits traditionally use images of one’s face as a signifier, due to its cognitive richness for conveying not only “who you are” but also our “emotional states” (Donath, 2001), but they also follow cultural conventions through the use of external elements such as objects, inscriptions, poses and spaces, capable of evoking the identity of the person portrayed.

Painted, sculpted or drawn forms of portraiture were lengthy manual processes, which were later facilitated by technological devices, namely with the invention of photography, as an optical and chemical process of automatic image registration on a sensitive surface. The portraits then became a direct representation of the subject, produced with the aid of a technical apparatus (Flusser, 1998), which, for the first time, separated the artist’s gaze from the subject’s body. As analog techniques were mediated and expanded with the digital medium, the image itself gradually became a result of the processing of digital data. With digital technologies all aspects of an image (spatiality, relations, movements, transformations, chromatism) are now registered in a scale of numerical values which can be subjected to algorithmic manipulation (Renaud, 2003). In this sense, authors like Brilliant (1991) point to a reconceptualization and re-historicization of portraiture (Hulse, 1993) promoted by the digital medium.

Accompanying technological and cultural advances, the portrait has been gradually reinvented following the tendency to detach itself from the mimetic representation of the physical body and moving towards abstraction. As an example, *Portrait of Deb from 1988-199?* (2012-2013) by L. J. Roberts, sought to defy strict binary conceptions of gender and their impact on identity, using a series of embroidered emblems collected by Deb. As a form of physical data portrait, the work explores how material objects express meaning and employs enumeration techniques and personal

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